



UNITED STATES DEPARTMENT OF COMMERCE  
U.S. Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

| APPLICATION NO./<br>CONTROL NO. | FILING DATE | FIRST NAMED INVENTOR /<br>PATENT IN REEXAMINATION | ATTORNEY DOCKET NO. |
|---------------------------------|-------------|---|---------------------|
|---------------------------------|-------------|---|---------------------|

|                   |       |
|-------------------|-------|
| EXAMINER          |       |
| <i>Lev Daitch</i> |       |
| ART UNIT          | PAPER |

20060814

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner for Patents

|                               |                            |                      |
|-------------------------------|----------------------------|----------------------|
| <b>Notice of Allowability</b> | <b>Application No.</b>     | <b>Applicant(s)</b>  |
|                               | 10/731,996                 | PARTHASARATHY ET AL. |
|                               | Examiner<br>Lev I. Iwashko | Art Unit<br>2186     |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to 6/8/2006.
2.  The allowed claim(s) is/are 1-40.
3.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All
  - b)  Some\*
  - c)  None
 of the:
  1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5.  CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application (PTO-152)
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

## **DETAILED ACTION**

### *Response to Amendment*

1. The amendments made to Claims 1-13, 15-16, and 18-37 have been considered.
2. New Claims 38-40 have been considered.
3. No claims have been cancelled.
4. Claims 1-30 and 38-40 are now in condition for allowance.
5. Claims 31-37 will be in condition for allowance upon application of examiner's amendments as shown below.
6. The Specification shall be in compliance upon application of examiner's amendments as shown below.

## **EXAMINER'S AMENDMENT**

7. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
8. Authorization for this examiner's amendment was given in a telephone interview with Ted Crawford (No. 50,610) on 8/17/2006.
9. The following is the specification as it should appear in amended form (Page 20, lines 17-20):

For example, a machine-accessible medium may well include a computer readable medium including: read only memory (ROM); random access memory (RAM); magnetic disk storage media; optical storage media; flash memory devices; and communication media consisting of electrical, optical, acoustical or other form of propagated signals (e.g., carrier waves, infrared signals, digital signals); and the like.

10. The following are Claims 31-37 as they should appear in amended form:

- Claim 31. (Currently Amended): A ~~storage medium~~ computer readable medium comprising content, when executed by a machine, causes the machine to determine a characteristic of a memory request based on a page management indicator associated with the memory request; and selectively leave an accessed memory page open after a memory access based, at least in part, on the characteristic of the memory request.
- Claim 32. (Currently Amended): A ~~storage medium~~ computer readable medium according to claim 31, wherein the page management indicator indicated a type of memory request associated with an agent making the memory request, the type of memory request to include one of an instruction memory request or a data memory request, the memory page to remain open after the memory access if the page management indicator indicated an instruction memory request and the memory page to close after the memory access if the page management indicator indicates a data memory request.
- Claim 33. (Currently Amended): A ~~storage medium~~ computer readable medium according to claim 31, further comprising the machine to: determine another characteristics of the memory request based on a spatial locality for the memory request, as compared to at least a subset of pending memory requests, the spatial locality determined based on whether the memory request, as compared to the at least a subset of pending memory requests is to a same memory page as the at least a subset of pending memory requests.
- Claim 34. (Currently Amended): A ~~storage medium~~ computer readable medium according to claim 31, further comprising the machine to: determine another characteristic of the memory request based on an arbitration scheme.
- Claim 35. (Currently Amended): A ~~storage medium~~ computer readable medium according to claim 34, wherein the arbitration scheme is based, at least in part, on a priority associated with the memory request.
- Claim 36. (Currently Amended): A ~~storage medium~~ computer readable medium according to claim 35, wherein the priority associated with the memory request is based, at least in part, on fairness.
- Claim 37. (Currently Amended): A ~~storage medium~~ computer readable medium according to claim 35, wherein the priority associated with the memory request is based, at least in part, on quality of service.

*Allowable Subject Matter*

11. Claims 1-40 are allowed.

12. The following is an examiner's statement of reasons for allowance: The independent Claims 1, 15, 20, 23, 31 and 38 embody the same teachings, with their differences consisting of methods and systems. Claim 1 will therefore be described in detail, with all descriptions applying equally to Claims 15, 20, 23, 31 and 38.

13. The allowability of Claim 1 will be described in detail. Originally, Claim 1 was rejected due to its unoriginal qualities of determining at least one characteristic of a memory request. However, the amended Claim teaches a method of determining a characteristic based on a page management indicator that is associated with the memory request. This idea is novel, since the method must include the determination of only one characteristic, and because the page management indicator must be associated with the memory request. These limitations cause the invention to be original, and no prior art reads on the claim due to its specificity. Since the teachings of Claim 1 are presented in a non-obvious manner, the requirements for allowability are fulfilled.

14. All claims dependent on independent claims 1, 15, 20, 23, 31 and 38 are in condition for allowance.

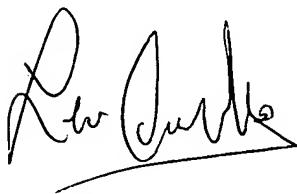
15. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

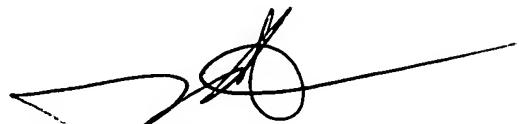
16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lev I. Iwashko whose telephone number is (571)272-1658. The examiner can normally be reached on M-Th, from 8-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Kim can be reached on (571)272-4182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Lev Iwashko



MATTHEW KIM  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100